Computing Systems Services Technical Bulletin

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NATURAL Version 2.1 SM04 Release Notes

Install Date

NSSDV	04/02/89
NSSAT	04/05/89
NSSGG	04/06/89
NSSCJ	04/15/89
NSSHS	04/15/89

NATURAL Statements

1. DEFINE DATA

   a. Empty VIEWs

      The definition of "empty" VIEWs in a DEFINE DATA statement (i.e., VIEWs in which no individual fields are defined) is allowed. For example:

```
DEFINE DATA LOCAL
    1 a-view VIEW OF a-ddm
END-DEFINE
```

   b. Generating Format Buffers

      The following construction:

```
DEFINE DATA LOCAL
    1 a-view VIEW OF a-ddm
    2 periodic-group (x:y)
        3 multiple-field (i:j)
        3 multiple-field (i:j)
END-DEFINE
```

      may result in a "NAT0902-STORAGE OVERFLOW WHILE CREATING

FORMAT BUFFERS". This occurs when the format buffer exceeds the maximum length of 2044 bytes.

With SMO4, the following definition is possible:

```
DEFINE DATA LOCAL
    1 a-view VIEW OF a-ddm
    2 periodic-group
        3 multiple-field (x:y,i:j)
        3 multiple-field (x:y,i:j)
END-DEFINe
```

The above definition requires less space in the format buffer. With SMO4, the data area editor will generate this second construction by default. Note that although no index is required for the periodic group, it is still possible to use the periodic group name in a DISPLAY or WRITE statement. For example, in:

```
DISPLAY periodic-group(*)
```

(*) will cause all occurrences that are actually filled to be displayed.

c. Format/Length of DDM Fields in Structured Mode

In structured mode, the syntax checker will no longer allow the format/length of DDM fields to be changed using the DEFINE DATA statement. The field NAME, for example, is defined in the DDM EMPLOYEE, with format/length A20. No other format/length for NAME may be specified using DEFINE DATA.

2. Move Right Justified of Hexadecimal Values

Through SMO3, all values less than or equal to H’40' were truncated in the source operand before the MOVE RIGHT JUSTIFIED was executed. Beginning with SMO4, only the values H’40' and H’00' will be truncated (up to the first value that is not H’40' or H’00') before the execution of the MOVE RIGHT JUSTIFIED.

3 Separate With Delimiter

If you explicity specify a delimiter using the DELIMITER option (i.e., "WITH DELIMITER operand 3"), trailing blanks in the character string specified as delimiter will be removed. For example:

```
SEPARATE field1 INTO field2 field3 WITH DELIMITER ‘., ‘
```

In the above example, the blank in the third position of the delimiter string will be ignored. With SMO3, trailing blanks in the delimiter string were accepted under certain

circumstance. This problem has been solved with SMO4. If you want to use a blank as part of the delimiter string, place it in any position except the last position of the string.

4. Input Field Edit Masks and Filler Characters

   It is now possilbe to specify both edit masks and filler characters for input fields. (Previously it was only possible to specify either one or the other.) For example:

   INPUT FIELD(n4) (AD=A'.'EM=ZZZ9)

5. Dynamic Source Generation Using the ":" Notation

   With the next release of NATURAL, dynamic source generation using the ":" notation (a NATURAL 1.2 feature) will no longer be supported.

NATURAL Editors

1. Program Editor—Large Screen Device Support

   The NATURAL program editor now supports devices that have a screen of 32 or 43 lines.

2. Data Area Editor—Using PREDICT DDM Fields (Line Command ".V")

   When a periodic group or a multiple value field defined in a PREDICT DDM as "PC" or "MC", respectively, is included in a data area, a C* variable (internal count of occurrences) for the group/field will automatically be generated and placed before the group/field. The index for such a periodic group/multiple value field will be defined using the number of occurrences as defined in PREDICT, not using the maximum occurrences (i.e., 99 or 191, respectively.) That is, unless the number of occurrences has not been defined in PREDICT, in which case the maximum occurrences will be used.

3. Line Editor—Including Local, Global, or Parameter Data Areas

The line command ".I(obj, ssss, nnnn)" may be used to include a local, global, or parameter data area. This feature is only supported for data areas that do not contain initial values or edit masks specified using the ".E" line command.